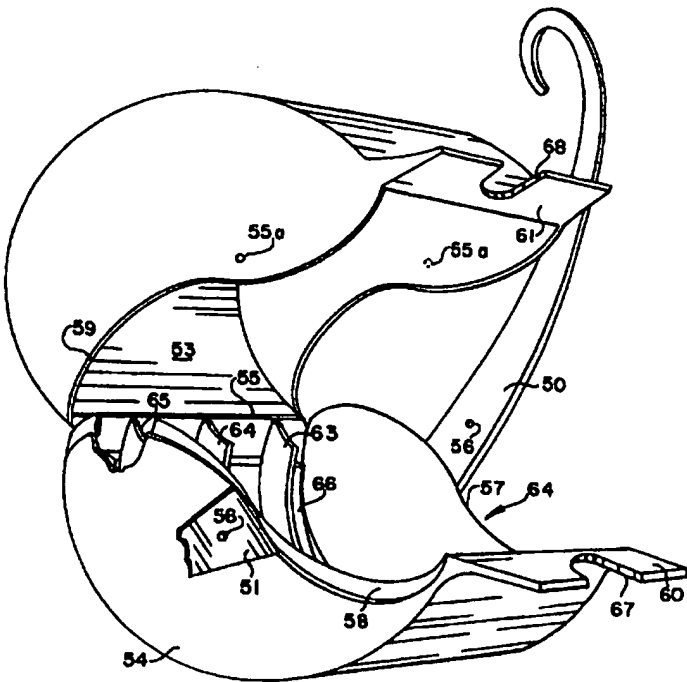


**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>B65H 16/02</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 98/08763</b> <b>(43) International Publication Date:</b> 5 March 1998 (05.03.98)
<b>(21) International Application Number:</b> PCT/US97/11858 <b>(22) International Filing Date:</b> 7 July 1997 (07.07.97)  <b>(30) Priority Data:</b> 08/703,477      27 August 1996 (27.08.96)      US  <b>(71) Applicant:</b> NUWAY CORPORATION [US/US]; 47 Cambridge Street, Winchester, MA 01890 (US).  <b>(72) Inventor:</b> MARINO, John, J.; 47 Cambridge Street, Winchester, MA 01890 (US).  <b>(74) Agent:</b> COOK, Paul, J.; 115 Pine Street, Manchester, MA 01944 (US).		<b>(81) Designated States:</b> AU, BR, CA, CN, CZ, EE, HU, IL, IS, JP, KR, LT, LV, MX, NO, NZ, PL, RO, SG, SI, SK, TR, UA, VN, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i> <i>With amended claims.</i>
<b>(54) Title:</b> HANGING DISPENSER FOR MOIST TISSUE  <b>(57) Abstract</b> <p>A dispenser (64) for moist tissue including a housing for a moist tissue roll and a slot (68) in the housing for dispensing the tissue. The dispenser includes arms (50, 51) for hanging the dispenser from a fixed element. The arms also effect a seal between housing sections (53, 54) forming the housing.</p> 		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakhstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LJ	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

## HANGING DISPENSER FOR MOIST TISSUE

**BACKGROUND OF THE INVENTION**

This invention relates to a dispenser for moist tissues. More particular, the present invention relates to a dispenser for moist tissues  
5 which effectively seals moist tissue housed within the dispenser to maintain it moist and which includes means for hanging the dispenser from a conventional toilet tissue holder.

Premoistened tissues are formed from a highly absorbent sheet material such as tissue paper which may contain polymeric fibers that  
10 provide strength to the tissue paper and which are moistened with a liquid cleaning agent. The cleaning agent may also contain a medicament, deodorant or the like. Since the tissue is moist, it must be stored in a container which seals the tissue from the atmosphere surrounding the dispenser in order to prevent excessive liquid  
15 evaporation from the tissue. In addition, the dispenser must permit ease of access to moist tissue for the user so that it can be easily dispensed in the desired amount by the user. The requirements for sealing and ease of access present conflicting criteria since the ease of access requirement also requires that at least a portion of the moist tissue be  
20 readily accessible to the user without opening the dispenser. Thus, the exposed tissue provides a means for allowing evaporation from the moist tissue stored in the dispenser which evaporation is to be minimized.

It is also desirable that the dispenser can be conveniently stored in the area of use, which is primarily the bathroom portion of a living area. In addition, it is desirable that the dispenser be reusable so that, after all of the moist tissue has been used, the dispenser can be opened to  
5 insert a new supply of moist tissue, thereby eliminating the need for purchasing a new dispenser with each new source of moist tissue. Thus, the dispenser must be capable of being resealed after a new supply of moist tissue has been added to the dispenser. Since the moist tissue normally is used in the bathroom, it would be desirable to provide a  
10 means for storing the dispenser which cooperates with conventional bathroom fixtures such as a spindle upon which a roll of dry toilet paper would be wound about a hollow core is stored. Such a storage means would provide the user with a convenient choice of dry or moist tissue.

The moist tissue also must be housed in a manner so that it can be  
15 easily accessed after a length of tissue has been dispensed. A common problem which occurs when dispensing tissue from a roll of tissue positioned within a housing is that, after the grasping force of a user is released from the exposed tissue, the tissue roll will rock away from the user and retract the leading tissue edge into the housing. This requires  
20 the next user to open the housing to recapture the leading edge so that new tissue can be dispensed. In the case of moist tissue, repeated opening of this housing is undesirable since excessive moisture evaporation from the tissue is effected thereby.

U.S. Patent 3,837,595 discloses a dispenser for a moist tissue roll in the form of a cylindrical housing. The cylindrical housing includes an open cylinder and one or more circular sealing rims which close and seal the openings in the cylinder. The cylinder contains a slot through  
5 which the moist tissue is dispensed. When it is desired to replace a roll of moist tissue, the sealing rim or rims are detached from the cylinder, a new roll of moist tissue is placed into the cylinder and the end of the roll is rethreaded through the slot in the cylinder. In addition, the sealing rims must be properly positioned to effect desired sealing to prevent  
10 moisture evaporation from the new roll. This dispenser is undesirable since it cannot be utilized with a conventional bathroom tissue support structure which includes a spindle.

U.S. Patent 4,235,333 discloses a dispensing device for moist tissue which must be affixed to a bathroom wall. In addition, when the tissue is  
15 dispensed from the dispenser, a cover must be lifted to permit access to the moist tissue. While the cover is lifted, a liquid evaporates from the tissue so that it eventually becomes undesirably dry.

U.S. Patent 3,310,353 discloses a dispenser for moist tissue. The dispenser has a cylindrical configuration formed from two sections which  
20 are hinged together. The interior of the dispenser is sealed from the surrounding atmosphere either with a spring loaded plate at the dispenser exit or with an auxiliary storing means for added liquid through

which the moist tissue is passed. No means are provided for storing the dispenser on a conventional spindle for toilet paper.

U.S. Patent 4,566,606 discloses a dispenser for moist tissue which is adapted to be positioned on a flat surface such as a floor or table. No means are provided for securing the dispenser to a conventional toilet  
5 tissue spindle.

Accordingly, it would be desirable to provide a dispenser for moist tissue which permits dispensing a desirable length of tissue while sealing the moist tissue from the atmosphere to prevent tissue drying.  
10 In addition, it would desirable to provide such a dispenser which permits dispensing of a plurality of lengths of tissue independently without opening the dispenser. In addition, it would be desirable to provide such a dispenser which can be secured to existing conventional storing means used for dry toilet tissue.

15 **SUMMARY OF THE INVENTION**

This invention provides a dispenser for moist tissue formed of a housing shaped to retain a roll of moist tissue. The housing is generally cylindrical and has a dispensing slot through which a leading edge of the  
20 moist tissue extends. The dispenser includes hanging means for hanging it from a fixed substrate such as a room wall or a spindle in a manner to position the dispensing slot at least about 75% of the diameter of the housing below a top surface of the housing. The roll of moist tissue is positioned within the housing so that it is unrolled from a

position adjacent a bottom surface of the housing and through the dispensing slot. The dispensing slot is provided with two spaced apart flanges through which the leading edge of the tissue extends. A top flange also can be provided with a second slot to expose a portion of the moist tissue in the dispenser so that it can be easily dispensed by the user. The second slot can be covered by a cover hinged to the top flange until use of the dispenser is effected by the user thereby to limit evaporation of liquid from the moist tissue.

The hanging means can be arms which also secure two sections of the housing together to seal the roll of moist tissue from the surrounding atmosphere. Alternatively sealing can be effected with a plate which, together with the housing, provides a means for hanging the housing for use.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a top view, of a dispenser of this invention

Fig. 1a is a partial top view of a dispenser slot flange utilized in the present invention.

Fig. 1b is a side view of a roll of moist tissue as positioned within a dispenser of this invention.

Fig. 2 is an isometric view of the dispenser of Fig. 1, in position for use.

Fig. 3 is an isometric view of the interior of the housing of Fig. 1.

Fig. 4 is a cross-sectional view of the dispenser of Fig. 3 taken along line 4-4.

Fig. 5 illustrates an interior view of a side plate of the dispenser of this invention.

5 Fig. 6 is side view which illustrates positioning the dispenser of this invention with a conventional bathroom tissue holder.

Fig. 7 is an isometric view of an alternative embodiment of this invention.

10 Fig. 8 is an isometric view of the interior housing of the embodiment shown in Fig. 7.

Fig. 9 is a side view of a living hinge that can form part of an arm of the dispenser of this invention.

Fig. 10 is a front view of an alternative embodiment of this invention.

15 Fig. 11 is a side view illustrating an alternative arm structure that can be used with the dispenser of this invention.

Fig. 12 is a partial isometric view of a slit opening of a dispenser of this invention.

Fig. 13 is a partial isometric view of an alternative slit configuration of the dispenser of this invention.

20 Fig. 14 is a front view taken along lines 14-14 of the slit configuration of Fig. 13.

Fig. 15 is a cross sectional view of the slit opening of Fig. 12 taken above line 15-15.



Fig. 16 is a cross-sectional view illustrating an alternative means for attaching arms to the dispenser of this invention.

### **DESCRIPTION OF THE PREFERRED EMBODIMENT**

5

The dispenser of this includes a slit opening positioned at least about 75% of the dispenser diameter from a top surface of the dispenser. By positioning the slit opening at a bottom portion of the dispenser, tissue is dispensed from the bottom of a roll of moist tissue housed within the  
10 dispenser. Upon completing dispensing a length of tissue, the roll is pulled toward the slit and it merely rolls away from the leading edge of the tissue rather than pulling the leading edge back into the dispenser.

The tissue dispenser of this invention is capable of being hung from a fixed support, such as a conventional spindle support for bathroom  
15 tissue. The dispenser of this invention also is capable of housing moist tissue and maintaining it moist by preventing evaporation of liquid in the moist tissue during storage. In addition, the dispenser of this invention permits removal of a desired length of tissue from the dispenser by a user in a manner which permits subsequent removal of a desired  
20 amount of tissue from the dispenser without opening the dispenser. The dispenser also can be opened to introduce a fresh supply of moist tissue to be dispensed therefrom.

Referring to Figs 1, 3, 4 and 5, one embodiment of the dispenser of this invention 10 is formed from a generally cylindrically housing section 12 (Fig. 3) and an end plate 14 (Fig. 5) which are configured in a manner to be housed on a conventional bathroom spindle. The housing section 12 has a generally cylindrical shape and includes a generally cylindrical tubular member 16 which extends the length of the housing section 12. The housing section 12 includes two flanges 18 and 20 which extend from a bottom portion 22 of housing section 12. The flanges 18 and 20 provide a means for dispensing moist tissue positioned therebetween. The flange 18 includes an opening 24 to expose moisten tissue to the user who can grasp the exposed tissue with one hand from the dispenser 10.

The tubular member 16 is secured to the end wall 26. The tubular member 16 also is hollow so that a conventional spindle normally used for dry bathroom tissue can be positioned within the hollow portion 28 of the tubular member 16 in order to support the dispenser 10.

The end plate 14 is shaped to fit tightly with the housing section 12 so that the interior portion of housing section 12 is sealed from the atmosphere by the end plate 14 and by moist tissue paper positioned within the space between the flanges 18 and 20. Any convenient means for forming a tight fit between the end plate 14 and the housing section 12 can be utilized. An example of a suitable means for fitting the end plate 14 and the housing section 12 is illustrated in Fig. 4. An end surface 28 of the housing section 12 is provided with a flange 30

connected thereto by a vertical wall section 32. The flange 30 extends about the entire periphery of one end of housing section 12. In addition, the end 34 of tubular member 16 is also configured in the same manner as shown in Fig. 4. The interior surface 36 of end plate 14 fits tightly  
5 onto flange 30 to form a seal about the periphery of housing 12. In addition, a surface 38 of the hole 40 on end plate 14 is positioned on a flange shaped like flange 30 to also form a tight seal between the interior of housing 12 and the atmosphere within hollow section 28 of tubular member 16. The roll of moist tissue (Fig. 1b) 40 has a leading  
10 edge 42 which extends between flanges 18 and 20 thereby to expose moistened tissue to the user at opening 24 of flange 18. The roll of moist tissue 40 is positioned within the housing section 12 so that tissue is dispensed from the bottom of the roll 40 rather than from the top of the roll 40. It has been found that feeding tissue from the bottom of the  
15 roll minimized rocking of the roll 40 within the housing 12 and thereby minimizes or eliminates the possibility that the leading edge 42 will be retracted into the housing section 12 when it is released from the grasp of the user. Thus, the leading edge 42 remains exposed within the opening 24 so that it can be easily grasped for subsequent use. Rather  
20 than retracting the leading edge of the tissue, a rocking tissue roll will merely roll away from the leading edge when tissue is dispensed from the bottom of the roll.

In order that moist tissue can be dispensed from the bottom of roll 40, the opening to the interior of housing section 12 defined by the flanges 18 and 20 is positioned at least about 75%, preferably at least about 85% of the diameter of the housing section 12 from the top of housing section 12. By thus positioning this opening, tissue dispensing from the bottom of roll 40 is assured.

An alternative embodiment is shown in Fig. 1a wherein cover 44 is fastened to flange 18 by means of hinge 46. The cover 44 can be lifted by the user away from flange 18 (see Fig. 2) to expose moist tissue between flanges 18 and 20 so that the user can dispense moist tissue from the dispenser 10. An alternative dispenser of this invention 11 is shown in Fig. 2 which includes means for preventing dispenser 11 from rotating about a conventional spindle (not shown) which is positioned within tubular member 13. The dispenser 11 is constructed in the same manner as the dispenser 10 but includes a stop means which comprise prongs 15 and 17 positioned on end plate 19. The prongs 15 and 17 are positioned to contact a conventional spindle support means thereby to prevent or minimize rotation of dispenser 11 when moist tissue is pulled from the dispenser 11. Alternatively, a protrusion 21 can be secured to or molded integrally with dispenser 11. The rearward surface 23 of protrusion 21 is positioned to contact a wall or the like from which the support means for the spindle house within tubular section 13 extends.

In an alternative embodiment, the wall 26 and tubular member 16 of Fig. 3 can be formed as one piece which is separable from housing section 12. This piece can be joined to the housing section by the same means described above for joining the end plate 14 to the housing section 12. In this embodiment, the dispenser comprises a three piece dispenser rather than the two piece dispenser described above. In any event, both dispensers effectively seal the interior thereof from the atmosphere and provide a convenient means for dispensing moist toilet tissue there from.

10 Referring to Fig. 6, the dispenser of this of this invention 10 is hung by two arms 50 and 52 positioned about a conventional spindle 54 which supports a conventional dry bathroom tissue 56. The arms 50 and 52 are provided with holes at one end 58 or 60 thereof so spindle 64 can be fit there through. The lower ends 62 and 64 of arms 50 and 52 are also  
15 provided with means for attaching the arms 50 and 52 to spindle 68 which extends through the tubular member 16.

In use, the dispenser 10 is opened by hand by removing plate 14 from the housing section 12 to expose the inner volume of the dispenser 10 and the tubular member 16. A roll of moist tissue 40 (Fig. 1b) wound  
20 about hollow cylinder 41 which is made, for example, of cardboard, plastic or the like is inserted over tubular member 16. The leading edge 42 of the moist tissue is positioned between flanges 18 and 20 so that it is exposed at opening 24. The end plate 14 then is positioned in sealing

relationship with housing 12 as described above. The moist tissue is dispensed by pulling it by hand away from contact between the flanges 18 and 20. The dispenser 64 can be hung from a conventional bathroom spindle for supporting a roll of conventional dry tissue 69.

5 Referring to Figs. 7 and 8, an alternative dispenser construction 64 of this invention is shown. The walls 57 and 58 of dispenser 64 can be molded integrally with the bottom section 54 so that they contact the interior side surfaces 59 of section 53 to provide additional sealing of the interior volume of dispenser 64 from the surrounding atmosphere. If  
10 desired, the walls 57 and 58 can be joined along the rearward portion of the dispenser 64 to form a single continuous wall which also provides additional sealing adjacent living hinge 55. Sealing of the front portion of the dispenser 64 from which the moist tissue is dispensed is effected by means of flange 60 and 61 which, together with the moist tissue  
15 therebetween being dispensed form a tight seal between the interior of the dispenser 64 and the surrounding atmosphere. The arms 50 and 51 are attached to housing section 54 by living hinge 52 and function as both the means for hanging the dispenser 64 from a spindle or the like and as a means for effecting sealing of the interior of the dispenser 64  
20 from the surrounding atmosphere so that the moist tissue housed therein remains moist. The arms 50 and 51 are joined to section 53 by posts 55a which are molded integrally with section 53 and which effect a snap fit when positioned within mating holes 56 within arms 50 and 51. Thus, the arms 50 and 51 are attached to the section 54 by means of

the living hinge 52 and to the section 53 by the snap fit formed by posts 55a. The distance between the living hinges 52 on the arms 50 and 51 and the posts 55a is regulated so that the sections 53 and 54 are tightly positioned against each other to form a seal about the periphery of the sections 53 and 54, thereby prevent excessive evaporation from the tissue.

As shown in Fig. 8, the interior surface of the dispenser 64 can be modified to reduce the frictional force exerted by the interior surface of the dispenser when a roll of moist tissue housed therein is unrolled during dispensing. Raised flanges 63, 64 and 65 which extend about substantially the entire periphery of the interior surface 66 of section 54 raise the roll of moist tissue away from interior surface 66 so that the moist tissue contacts only the area presented by flanges 63, 64 and 65 rather than the entire area 66 of the interior surface of section 54. The effect of the flanges 63, 64 and 64 is to reduce the frictional forces on the tissue being dispensed. The flanges 60 and 61 are provided with slots 67 and 68 so that at least portion of the tissue positioned between flanges 60 and 61 are visible to the user and can be grasped by the user with on hand.

20 An alternative embodiment of the arm structure utilized on the dispenser of this invention is shown in Figs. 9 and 10. The arms 50 and 51 are shown in a folded position suitable for packaging the dispenser 64. Each arm 50 and 51 is molded integrally with the remaining portion

of the dispenser to form a single molded piece. As shown with particularly in Fig. 9, a hinge is formed by molding a thinner portion 52 of the arm 50 which functions as a hinge, known in the art as a living hinge, about which the arm 50 is pivotable. The arm 51 is molded in the same manner as the arm 50 to include a living hinge. The dispenser 64 is formed from two sections 53 and 54 which are also joined together by a living hinge 55 which extend along the length of the sections 53 and 54 so that the living hinge 55 functions as a seal between the sections 53 and 54 when the dispenser 64 is closed. The arms 50 and 51 are joined to the section 53 by posts 55a which are molded integrally with section 53 and which effect a snap fit when positioned within mating holes within arm 50 and 51. Thus, the arms 50 and 51 are attached to the section 54 by means of the living hinge 52 and to the section 53 by the snap fit formed posts 55a. The distance between the living hinges 52 on the arms 50 and 51 and the posts 55a is regulated so that the sections 53 and 54 are tightly positioned against each other to form a seal about the periphery of the sections 53 and 54 as set forth above.

Figs. 12 and 15 illustrate alternative means for increasing sealing in the volume positioned between flanges 102 and 104. As shown in Fig. 12, the flange 104 includes two rows of prongs 106 and 108 having blunted end surfaces so that they do not rip the tissue positioned between the flanges 102 and 104. The top lip 102 includes one row of prongs 110 which, when the lips 102 and 104 are positioned adjacent each other, are in the position shown as row 112. The prongs 108, 110



and 106 present a tortuous path for any vapor within the dispenser and together with the moist tissue 114 provide adequate seal to prevent substantial evaporation of vapor from a dispenser.

Referring to Figs. 13 and 14, an alternative arrangement of prongs  
5 position on flanges 116 and 118 is shown. The prongs 120 are positioned at the positions 121 when the flanges 116 and 118 are closed so that they and adjacent prongs 122 form a new row of prongs rather than having the prongs off set in the manner shown in Fig. 12.

Referring to Fig. 11, the arm 135 includes a hook 137 at one end  
10 thereof. The arm 135 and hook 137 are sufficiently flexible so that they can be bent to permit a spindle positioned as part of a conventional toilet tissue holder to be inserted into the opening 139 defined by the hook 137 without removing the spindle from the holder. The arm 135 is attached to housing section 141 by a living hinge 143 as described  
15 above with reference to Fig. 9. The arm 135 also is attached to housing section 145 by a post 147 which extends through opening 149 in arm 135. Post 147 is formed integrally with housing section 145. The arm 135 also includes a second living hinge which permits arm 135 to be folded in the position illustrated by dotted lines 153. The arm 135  
20 optionally can include a post 155 which fits in opening 157 to secure the folded arm in place. Alternatively, the post 155 and opening 157 can be reversed.

An alternative arm construction is shown in Fig. 16. The arm 70 includes two holes 71 and 72 which mate respectively with posts 73 and 74. The posts 73 and 74, the sections 75 and 76 of the dispenser 77 are tightly contacted with each other to form an effective seal between the interior of the dispenser 77 and the surrounding atmosphere. The arm 70 is also provided with a hook or a ring or the like which permits hanging the dispenser 77 from the conventional spindle such as is described above with reference to other embodiments of this invention. Similarly, the dispenser 77 can be provided with sealing means and friction reduction means as is described above in reference to other embodiments of this invention. Also, joining of the arms 72 the section 75 and 76 can be effected by posts rather than holes position on arm 78 with mater with holes rather than posts 73 and 74 in section 75 and 76. However, when such holes are used in the section 75 and 76 they do not extend through the entire thickness of the walls 78 and 79 so that sealing of the interior of the dispenser 77 can be maintained.

The dispenser of this invention is capable of housing moist tissue and maintaining it moist by preventing evaporation of liquid in the moist tissue during storage. In addition, the dispenser os this invention permits removal of a desired length of moist tissue from the dispenser by a user in a manner which permits subsequent removal of a desired amount of tissue from the dispenser without opening the dispenser

**CLAIMS**

1. A dispenser for housing a roll of moist tissue, said tissue having a leading edge which comprises:
  - a housing having a top surface and a diameter for storing said tissue formed from two housing sections joined together,
  - each of said housing sections having a flange, said flanges being positioned adjacent each other to form a slit when said housing sections are closed together,
  - said slit having a size to permit moist tissue to pass therethrough and being positioned at least about 75% of said diameter from said top surface,
  - said dispenser having two opposing end surfaces,
  - an arm attached to each of said end surfaces on both of said housing sections for positioning said housing sections in sealing relationship with each other, and
  - means on said arms for hanging said dispenser from a fixed substrate.
2. The dispenser of claim 1 wherein said slit is positioned at least about 85% of said diameter from said top surface.

3. The dispenser of claim 1 wherein at least one of said flanges include a slot to permit exposure of a portion of said moist tissue positioned between said flanges.
4. The dispenser of claim 1 being formed of a single piece.
5. The dispenser of any one of claims 1, 3 or 4 wherein said arms are attached to one of said housing sections by a hinge means.
6. The dispenser of any one of claims 1 or 3 wherein said arms are detachable from said housing sections.
7. The dispenser of claim 3 which includes a cover for said slot connected to one of said flanges by a hinge means.
8. The dispenser of claim 7 being formed of a single piece.
9. The dispenser of claim 7 wherein said arms are attached to one of said housing sections by a hinge means.
10. The dispenser of claim 7 wherein said arms are detachable from said housing sections.
11. The dispenser of any one of claims 1, 3, 4 or 7 including means for attaching said arms together.

12. The dispenser of any one of claims 1, 3,4 or 7 including means for folding said arms.
13. A dispenser for housing a roll of moist tissue, said tissue having a leading edge which comprises:  
a housing having a top surface and a diameter for storing said tissue formed from two housing sections joined together,  
each of said housing sections having a flange, said flanges being positioned adjacent each other to form a slit when said housing sections are closed together,  
said slit having a size to permit moist tissue to pass therethrough and being portioned at least about 75% of said diameter from said top surface,  
said dispenser having two opposing end surfaces,  
an arm attached to each of end surfaces on both of said housing sections for positioning said housing sections in sealing relationship with each other, and  
means on said arms for hanging said dispenser from a spindle secured to a fixed substrate.
14. The dispenser of claim 13 wherein said slit is positioned at least about 85% of said diameter from said top surface.

15. The dispenser of claim 13 wherein at least one of said flanges include a slot to permit exposure of a portion of said moist tissue positioned between said flanges.
16. The dispenser of claim 13 being formed of a single piece.
17. The dispenser of any one of claims 13, 15 or 15 wherein said arms are attached to one of said housing sections by a hinge means.
18. The dispenser of any one of claims 13 or 15 wherein said arms are detachable from said housing sections.
19. The dispenser of claim 13 which includes a cover for said slot connected to one of said flanges by a hinge means.
20. The dispenser of claim 18 being formed of a single piece.
21. The dispenser of claim 18 wherein said arms are attached to one of said housing sections by a hinge means.
22. The dispenser of claim 18 wherein said arms are detachable from said housing sections.

23. The dispenser of any one of claims 13, 15, 16 or 17 including means for attaching said arms together.
24. The dispenser of any one of claims 13, 15, 16 or 17 including means for folding said arms.
25. The dispenser of any of claims 1 or 13 formed from to separate housing sections.
26. A dispenser for housing a roll of moist tissue, said tissue having a leading edge which comprises:  
a housing for storing said tissue formed from a housing section and an end plate which fit together to form a seal between the interior of said housing and atmosphere surrounding said housing,  
said housing section having two flanges extending from a bottom portion of said housing,  
said flanges being positioned adjacent each other to form a space through which moist tissue is dispensed,  
said housing section including a hollow tubular member to support said roll of moist tissue positioned within said housing and extending substantially the entire length of said housing,  
said tubular member and said end plate being in contact with each other to effect a seal between the interior of said housing and atmosphere surrounding said housing.

27. The dispenser of claim 26 wherein at least one of said flanges includes a open slot to effect exposure of moist tissue positioned between said flanges.
28. The dispenser of claim 27 which includes a hinged, cover, said cover being moveable from a position to expose moist tissue positioned between said flanges to a second position to cover said moist tissue.
29. The dispenser of any one of claims 26, 27 or 28 which includes means positioned on an outside surface of said dispenser to minimize or prevent rotation of said dispenser.
30. The dispenser of any one of claims 26, 27 or 28 wherein said housing section includes a second end plate which form a seal between said interior and said atmosphere.
31. The dispenser of claim 30 which includes means positioned on a outside surface of said dispenser to minimize or prevent rotation of said dispenser.



## AMENDED CLAIMS

[received by the International Bureau on 04 November 1997 (04.11.97); original claims 6,10,18 and 22 cancelled; original claims 1-5,7-9, 13-17,19-21 and 23-31 amended; new claims 32-46 added; remaining claims unchanged (6 pages)]

1. A dispenser for housing a roll of moist tissue which comprises:
  - a hollow housing shaped to store a roll of moist tissue formed from two housing sections joined together,
  - each of said housing sections having a flange, said flanges being positioned adjacent each other to form a slit through a periphery of said housing when said housing sections are closed together,
  - said slit having a size to permit moist tissue to pass therethrough when a roll of moist tissue is stored in said housing and being positioned a distance of at least 75% of a diameter of said housing below a top surface of said housing when said housing is attached to a fixed substrate,
  - each of said housing sections having two opposing end surfaces,
  - two arms wherein one of said arms is attached to each one of said opposing end surfaces of one of said housing sections,
  - means for securing, in a detachable manner, each of said arms to opposing end surfaces of a second of said housing sections to position said housing sections in sealing relationships with each other, and
  - means on said arms for hanging said housing from said fixed substrate.
- wherein each arm is attached to one of said housing sections by a separate hinge.
2. The dispenser of Claim 1 wherein said slit is positioned a distance of at least 85% of the diameter of said housing below said top surface of said housing when said housing is attached to said fixed substrate.
3. The dispenser of Claim 1 wherein at least one of said flanges includes a slot.
4. The dispenser of Claim 1 consisting of a single piece.
5. The dispenser of any one of Claims 1, 3 or 4 wherein each arm is attached to one of said housing sections by a separate hinge.

7. The dispenser of claim 3 which includes a cover for said slot, said cover being connected to one of said flanges by a hinge.

8. The dispenser of Claim 7 consisting of a single piece.

9. The dispenser of claim 7 wherein each arm is attached to one of said housing sections by a separate hinge.

11. The dispenser of any one of Claims 1, 3, 4 or 7 including means for attaching said arms together.

12. The dispenser of any one of Claims 1, 3, 4 or 7 including means for folding said arms.

13. A dispenser for housing a roll of moist tissue which comprises:  
a hollow housing shaped to store a roll of moist tissue, said housing being formed from two housing sections joined together,  
each of said housing sections having a flange, said flanges being positioned adjacent each other to form a slit through a periphery of said housing when said housing sections are closed together,  
said slit having a size to permit moist tissue to pass therethrough when a roll of moist tissue is stored in said housing and being positioned a distance of at least 75% of a diameter of said housing below a top surface of said housing when said housing is attached to a fixed substrate,  
each of said housing sections having two opposing end surfaces,  
two arms, wherein each of said arms is attached at one end thereof to each one of said opposing surfaces of a respective one of said housing sections,

means for securing in a detachable manner, each of said arms to opposing end surfaces of a second of said housing sections to position said housing sections in sealing relationship with each other,

and said arms being shaped at an opposite end thereof for hanging said housing from a spindle secured to said fixed substrate.

14. The dispenser of Claim 13 wherein said slit is positioned a distance of at least 85% of the diameter of said housing below said top surface

of said housing when said housing is attached to said fixed substrate.

15. The dispenser of claim 13 wherein at least one of said flanges includes a slot.

16. The dispenser of claim 13 consisting of a single piece.

17. The dispenser of any one of claims 13, 14 or 15 wherein each arm is attached to one of said housing sections by a separate hinge.

19. The dispenser of Claim 15 which includes a cover for said slot, said cover being connected to one of said flanges by a hinge.

20. The dispenser of claim 18 consisting of a single piece.

21. The dispenser of claim 18 wherein each arm is attached to one of said housing sections by a separate hinge.

23. The dispenser of any one of Claims 13, 15 or 16 including means for attaching said arms together.

24. The dispenser of any one of Claims 13, 15 or 16 including means for folding said arms.

25. The dispenser of any one of Claims 1 or 13 formed from two separate housing sections.

26. A dispenser for housing a roll of moist tissue which comprises:

a hollow housing formed from a housing section and an end plate which fit together to form a seal between an interior of said housing and atmosphere surrounding said housing,

each housing section having a flange extending outwardly from said housing,

said flanges being positioned adjacent each other to form a space,

said space being positioned a distance of at least 75% of a diameter of the housing below a top surface of said housing when said housing is attached to a fixed substrate,

said housing section including a hollow tubular member positioned within said housing and extending substantially the entire length of said housing,

and said tubular member and said end plate being in contact with each other to effect a seal between the interior of said housing and atmosphere surrounding said housing.

27. The dispenser of claim 26 wherein at least one of said flanges includes an open slot.

28. The dispenser of claim 27 which includes a hinged cover, said cover being moveable from a first position to expose said space positioned between said flanges to a second position to cover said space.

29. The dispenser of any one of claims 26, 27 or 28 which includes means positioned on an outside surface of said dispenser to minimize rotation of said dispenser.

30. The dispenser of any one of claims 26, 27 or 28 wherein said housing section includes a second end plate which forms a seal between said interior and said atmosphere.

31. The dispenser of Claim 30 which includes means positioned on an outside surface of said dispenser to minimize rotation of said dispenser.

32. A dispenser for housing a roll of moist tissue which comprises:  
a hollow housing shaped to store a roll of moist tissue formed from two housing sections joined together,  
each of said housing sections having a flange, said flanges being positioned adjacent each other to form a slit through a periphery of said housing when said housing sections are closed together,  
said slit having a size to permit moist tissue to pass therethrough when a roll of moist tissue is stored in said housing and being positioned a distance of at least 75% of a diameter of said housing below a top surface of said housing when said housing is attached to a fixed substrate,  
each of said housing sections having two opposite end surfaces, two arms wherein each of said arms is secured, at one end thereof in a detachable manner to one of said opposing end surfaces of both of said housing sections to position said housing sections in sealing relationship with each other,

and said arms being shaped at an opposite end thereof for hanging said housing from a fixed substrate.

33. The dispenser of claim 32 wherein said slit is positioned a distance of at least 85% of the diameter of said housing below said top surface of said housing when said housing is attached to a fixed substrate.

34. The dispenser of claim 32 wherein at least one of said flanges includes a slot.

35. The dispenser of claim 32 consisting of a single piece.

36. The dispenser of claim 34 which includes a cover for a slot, said cover being connected to one of said flanges by a hinge.

37. The dispenser of any one of claims 32, 34, 35 or 36 including means for attaching said arms together.

38. The dispenser of any one of claims 32, 34, 35 or 36 including means for folding said arms.

39. A dispenser for housing a roll of moist tissue which comprises:  
a hollow housing shaped to store a roll of moist tissue said housing being formed from two housing sections joined together,  
each of said housing sections having a flange, said flanges being positioned adjacent each other to form a slit through a periphery of said housing when said housing sections are closed together,  
said slit having a size to permit moist tissue to pass therethrough when a roll of moist tissue is stored in said housing and being positioned a distance of at least 75% of a diameter of said housing below a top surface of said housing when said housing is attached to a fixed substrate,  
each of said housing sections having two opposite end surfaces, two arms, wherein each of said arms is secured, at one end thereof in a detachable manner, to one of said opposing end surfaces of both of said housing sections to position said housing sections in sealing relationship with each other,

and means on said arms being shaped at an opposite end thereof for hanging said housing from a spindle secured to said fixed substrate.

40. The dispenser of claim 39 wherein said slit is positioned a distance of at least 85% of the diameter of said housing below said top surface of said housing when said housing is attached to said fixed substrate.

41. The dispenser of claim 39 wherein at least one of said flanges includes a slot.

42. The dispenser of claim 39 consisting of a single piece.

43. The dispenser of claim 41 which includes a cover for said slot, said cover being connected to one of said flanges by a hinge.

44. The dispenser of any one of claims 39, 41, 42 or 43 including means for attaching said arms together.

45. The dispenser of any one of claims 39, 41, 42 or 43 including means for folding said arms.

46. The dispenser of any of claims 32 or 39 formed from two separate housing sections.

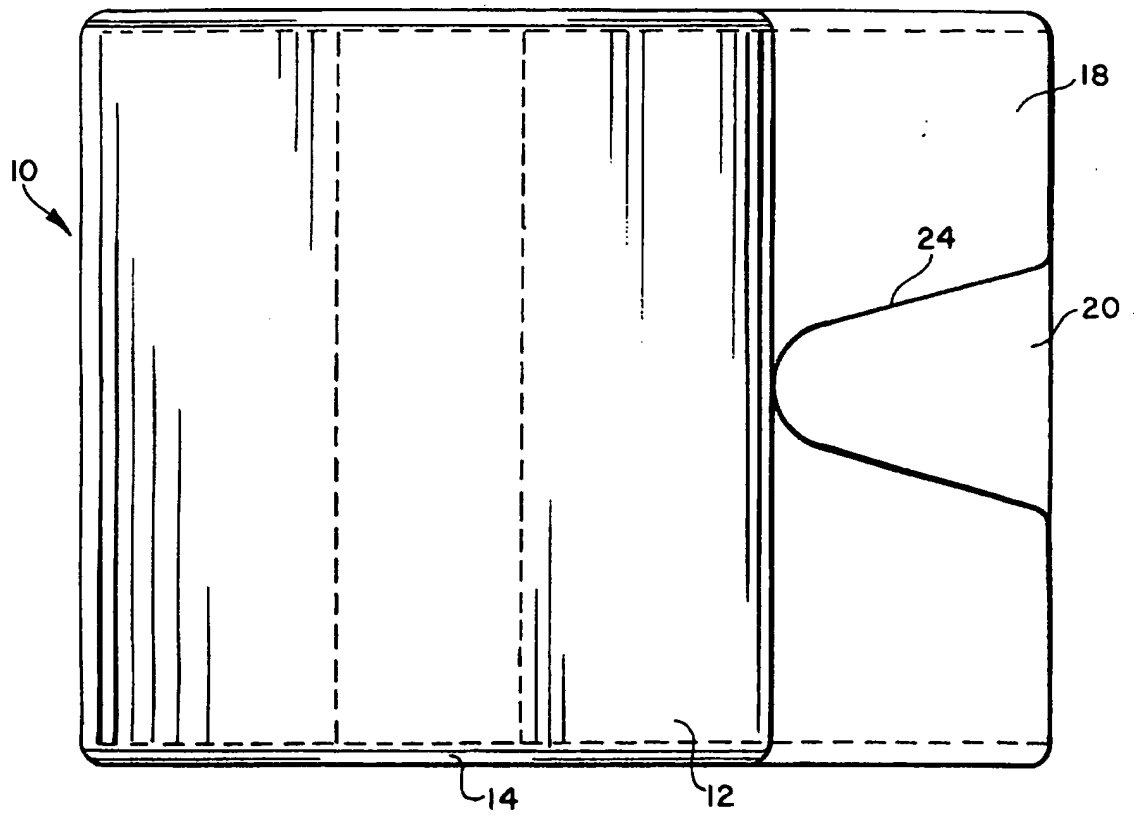


Fig. 1

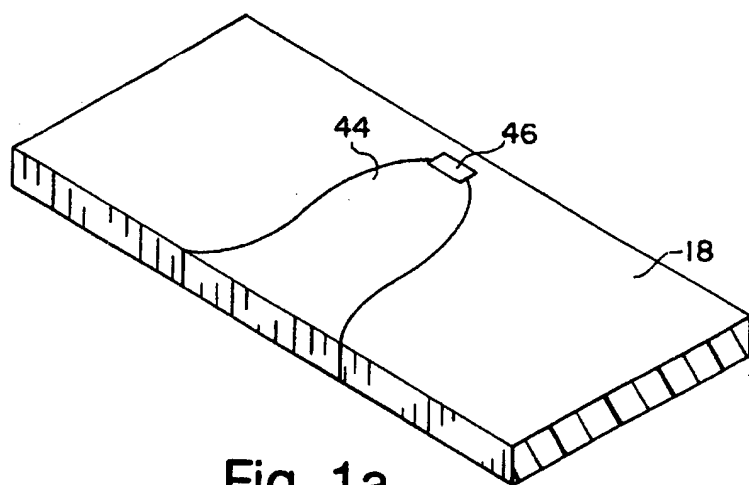


Fig. 1a

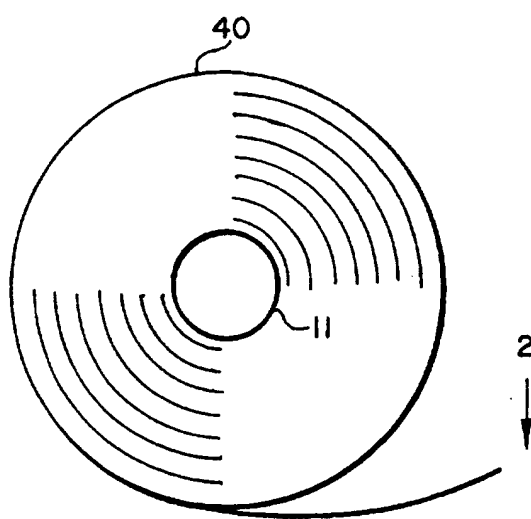


Fig. 1b



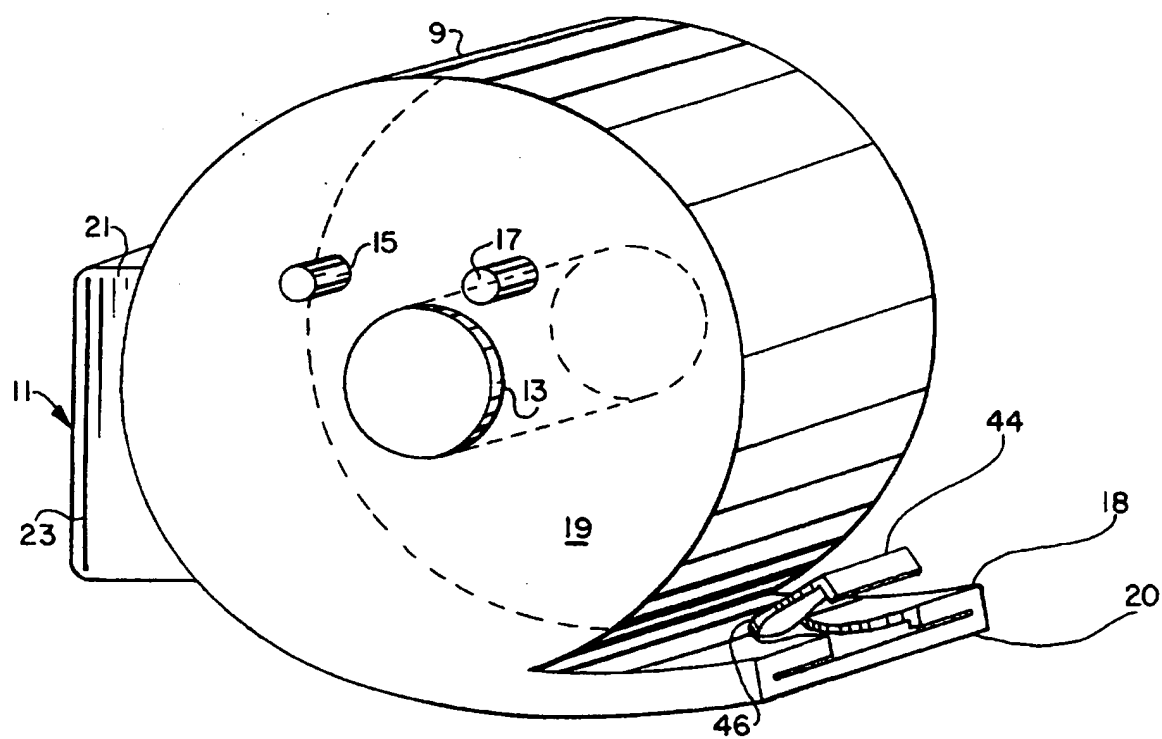


Fig. 2

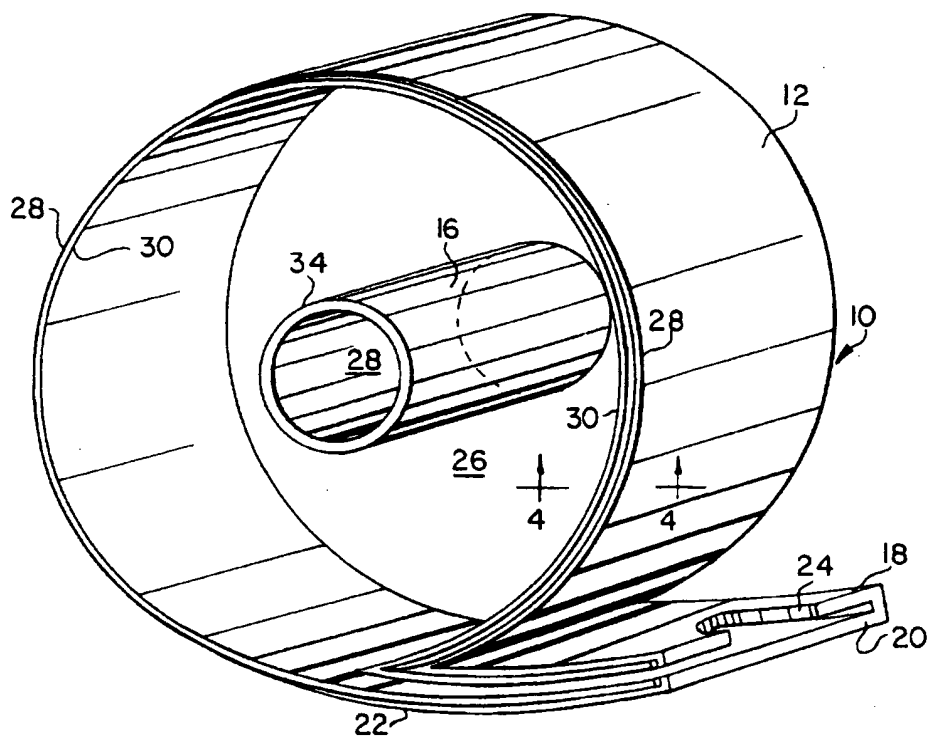


Fig. 3

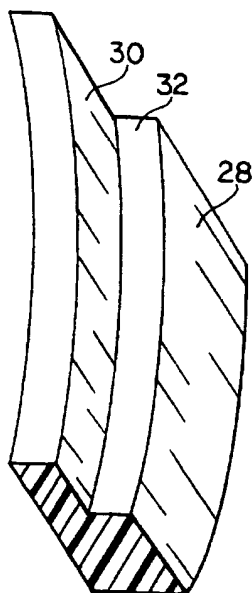


Fig. 4

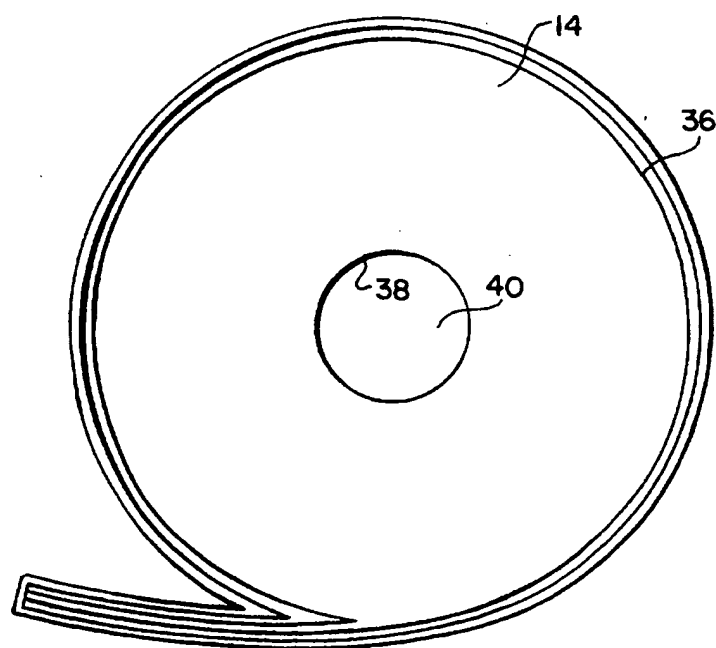


Fig. 5

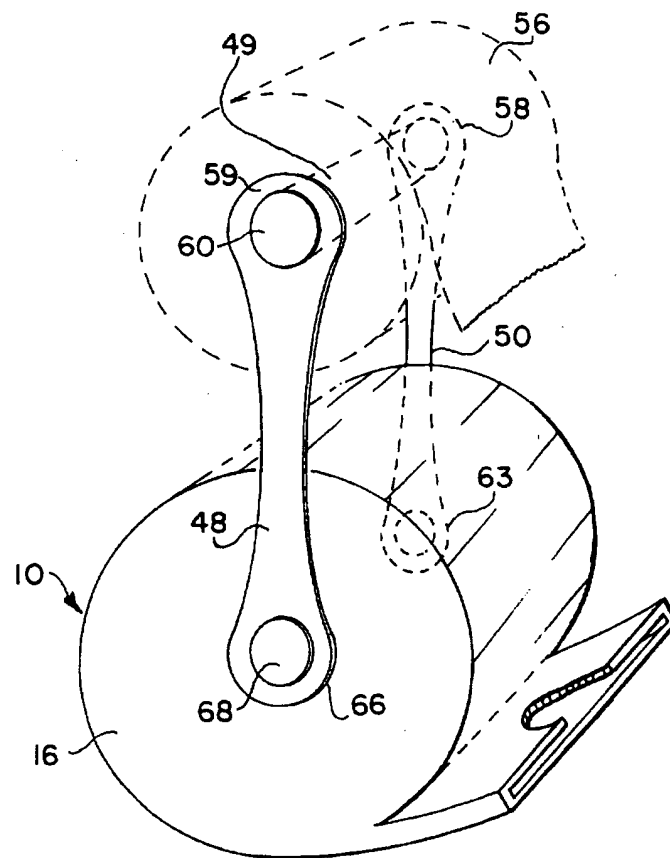


Fig. 6

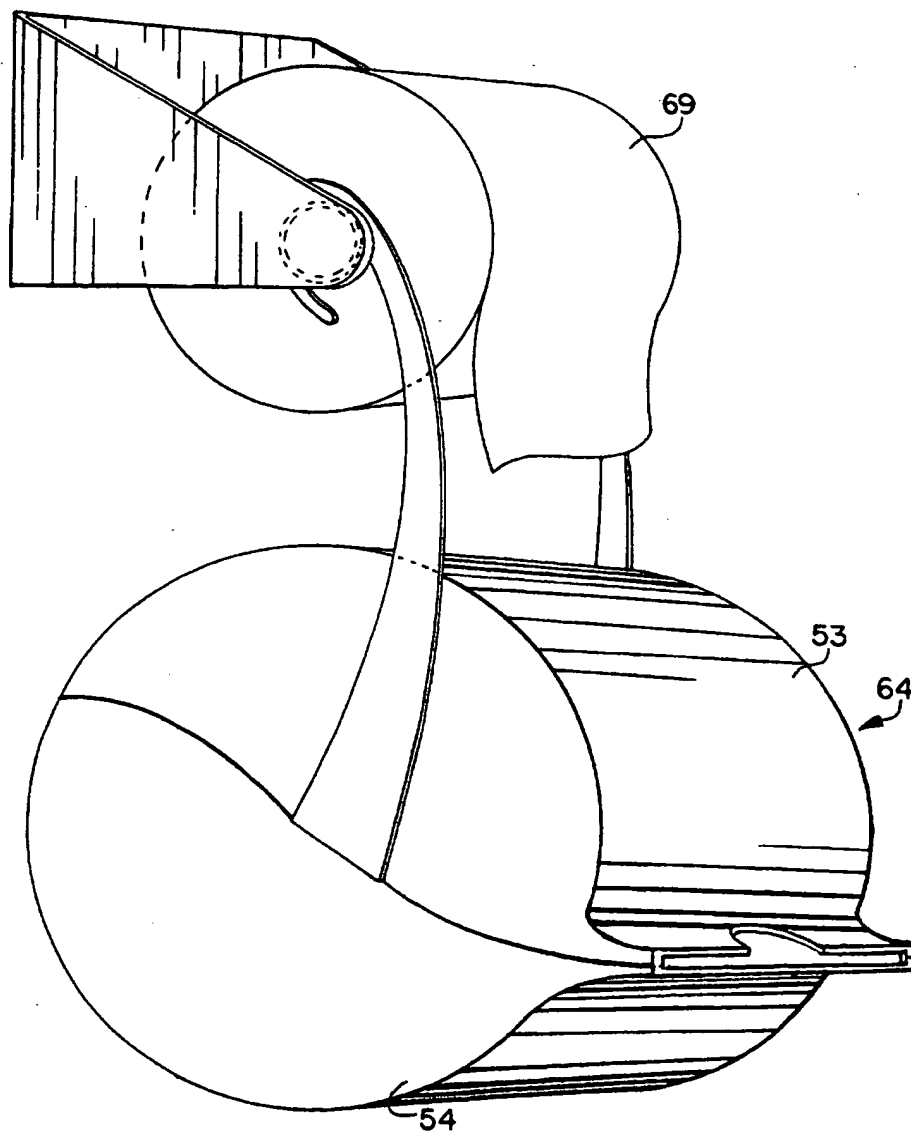
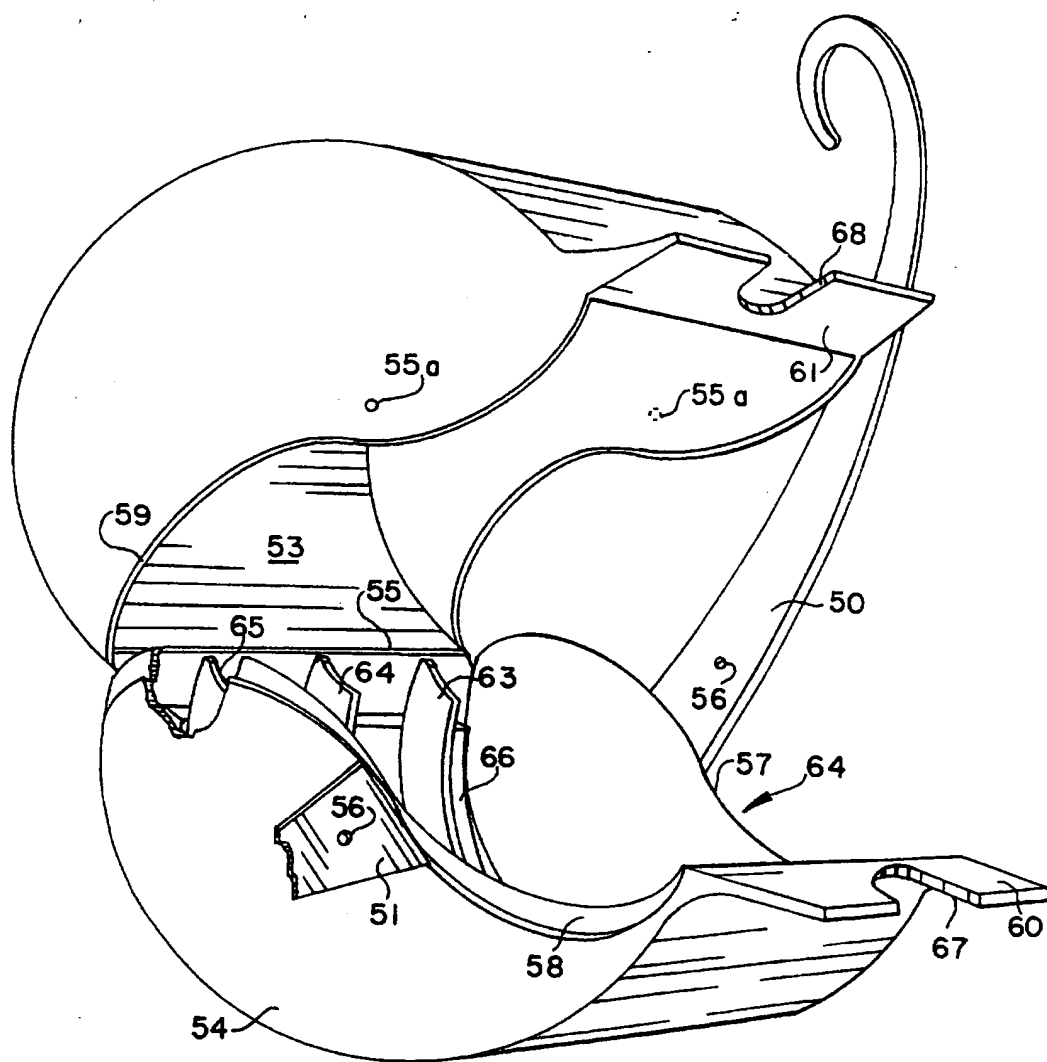


Fig. 7



**Fig. 8**

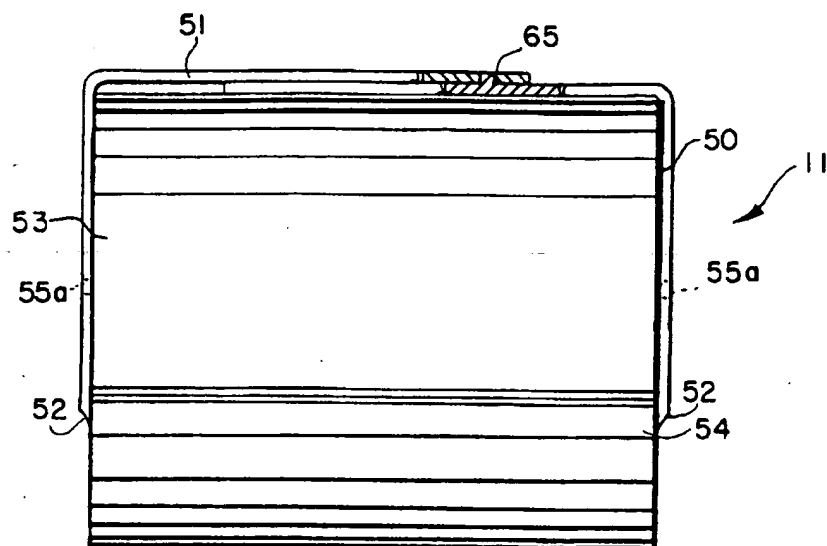


Fig. 10

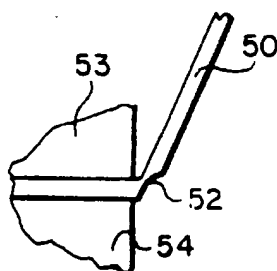


Fig. 9

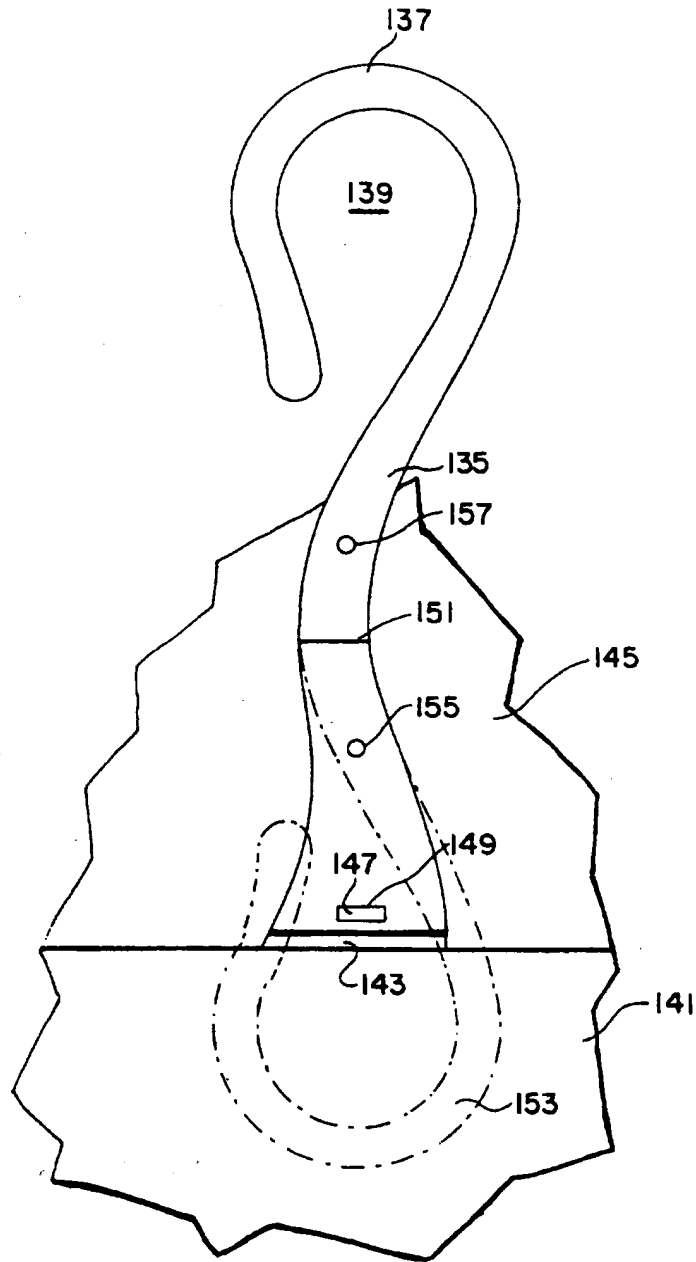


Fig. 11



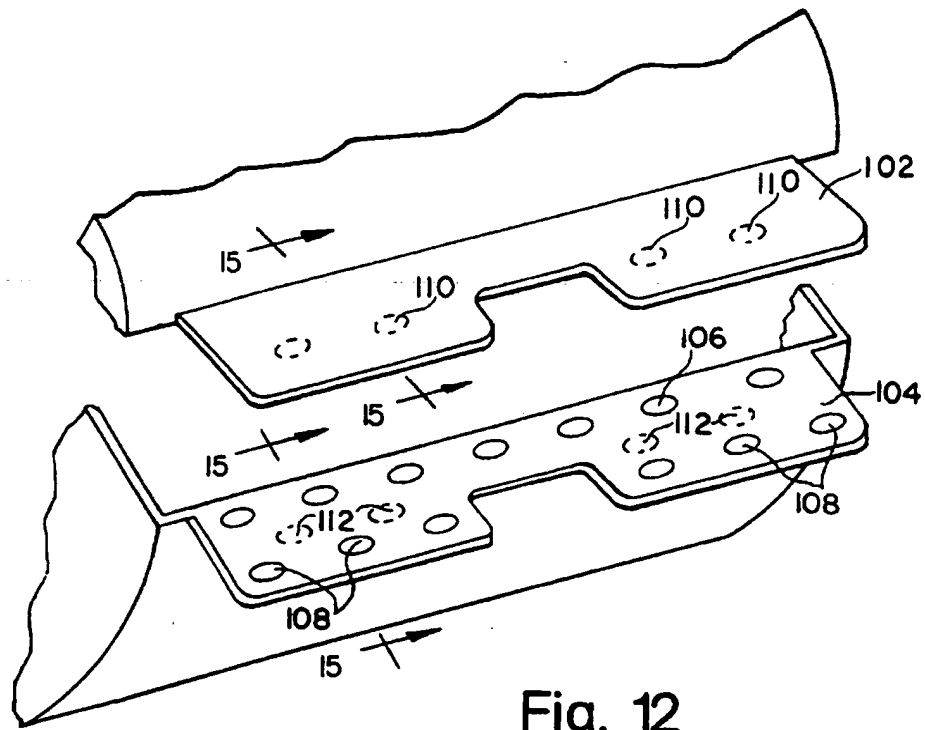


Fig. 12

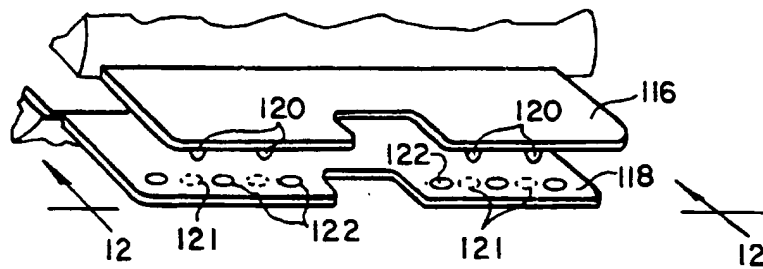


Fig. 13

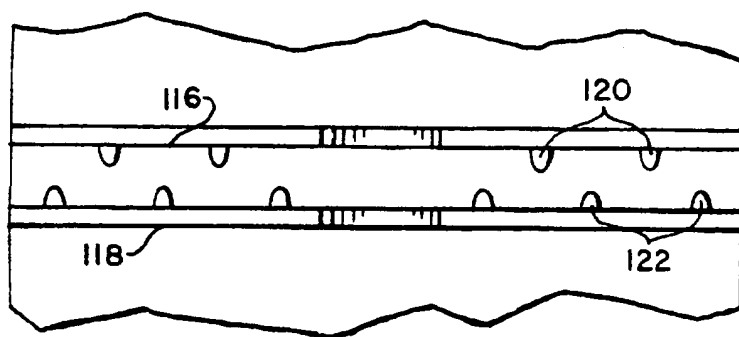


Fig. 14

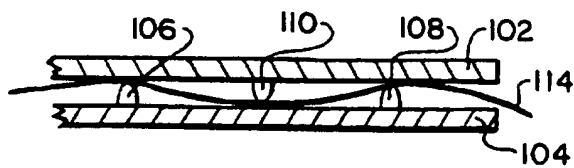


Fig. 15

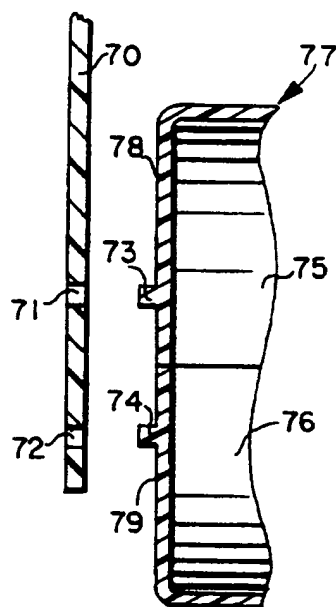


Fig. 16

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/11858

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :B65H 16/02  
US CL :242/595

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 242/560, 560.2, 594.1, 594.5, 595, 595.1, 596.8, 597.8, 598.3, 598.5, 598.6, 599.1; 206/409; 225/051

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X - Y	US 5,439,521 A (RAO) 08 August 1995 (08/08/95), whole document.	26, 27 and 1-25, <u>28-31</u>
Y	US 3,837,595 A (BOONE) 24 September 1974 (24/09/74), whole document.	1-25
Y	US 1,436,990 A (LILLIBRIDGE) 28 November 1922 (28/11/22), whole document.	1-25
Y	US 5,076,424 A (NAKAMURA) 31 December 1991 (31/12/91), whole document.	28-31
A	US 2,177,430 A (GREISER) 24 October 1939 (24/10/39), whole document.	1-31

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 27 AUGUST 1997	Date of mailing of the international search report 24.09.97
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer GREGORY J. STRIMBU Telephone No. (703) 305-3979

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US97/11858

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2,798,597 A (THOMPSON) 09 July 1957 (09/07/57), whole document.	1-31
A	US 5,207,367 A (DUNN et al.) 04 May 1993 (04/05/93), whole document.	1-31
A	US 4,730,778 A (AKAO et al.) 15 March 1988 (15/03/88), whole document.	1-31
A	US 5,482,223 A (BRESINA et al.) 09 January 1996 (09/01/96), whole document.	1-31
A	US 4,834,316 A (DELOREAN) 30 May 1989 (30/05/89), whole document.	1-31
A	US 2,790,608 A (SIEVEN) 30 April 1957 (30/04/57), whole document.	1-31
A	US 4,427,159 A (MILLER et al.) 24 January 1984 (24/01/84), whole document.	1-31
A	US 3,335,973 A (GENN) 15 August 1967 (15/08/67), whole document.	1-31
A	US 5,012,986 A (NEEDLE) 07 May 1991 (07/05/91), whole document.	1-31
A	US 3,948,454 A (BASTIAN) 06 April 1976 (06/04/76), whole document.	1-31
A	US 4,796,832 A (SCHUTZ et al.) 10 January 1989 (10/01/89), whole document.	1-31
A	US 3,830,198 A (BOONE) 20 August 1974 (20/08/74), whole document.	1-31
A	US 2,685,365 A (SIEVEN) 03 August 1954 (03/08/54), whole document.	1-31
A	US 3,532,210 A (MINION et al.) 06 October 1970 (06/10/70), whole document.	1-31
A,P	US 5,598,987 A (WACHOWICZ) 04 February 1997 (04/02/97), whole document.	1-31

